Derivate

Derivate delle funzioni elementari		
Funzioni	**Derivate**	**Notazione di Leibnitz**
$y = k$	$y' = 0$	$\frac{dk}{dx} = 0$
$y = x$	$y' = 1$	$\frac{dx}{dx} = 1$
$y = x^n$	$y' = nx^{n-1}$	$\frac{dx^n}{dx} = nx^{n-1}$
$y = \sqrt{x}$	$y' = \frac{1}{2\sqrt{x}}$	$\frac{d\sqrt{x}}{dx} = \frac{1}{2\sqrt{x}}$
$y = \sqrt[n]{x}$	$y' = \frac{1}{n\sqrt[n]{x^{n-1}}}$	$\frac{d\sqrt[n]{x}}{dx} = \frac{1}{n\sqrt[n]{x^{n-1}}}$
$y = \operatorname{sen} x$	$y' = \cos x$	$\frac{d \operatorname{sen} x}{dx} = \cos x$
$y = \cos x$	$y' = -\operatorname{sen} x$	$\frac{d \cos x}{dx} = -\operatorname{sen} x$
$y = \operatorname{tg} x$	$y' = \frac{1}{\cos^2 x}$ $y' = 1 + \operatorname{tg}^2 x$	$\frac{d \operatorname{tg} x}{dx} = \frac{1}{\cos^2 x}$ $\frac{d \operatorname{tg} x}{dx} = 1 + \operatorname{tg}^2 x$
$y = \operatorname{cotg} x$	$y' = -\frac{1}{\operatorname{sen}^2 x}$ $y' = -1 - \operatorname{cotg}^2 x$	$\frac{d \operatorname{cotg} x}{dx} = -\frac{1}{\operatorname{sen}^2 x}$ $\frac{d \operatorname{cotg} x}{dx} = -1 - \operatorname{cotg}^2 x$
$y = \operatorname{arcsen} x$	$y' = \frac{1}{\sqrt{1-x^2}}$	$\frac{d \operatorname{arcsen} x}{dx} = \frac{1}{\sqrt{1-x^2}}$
$y = \arccos x$	$y' = -\frac{1}{\sqrt{1-x^2}}$	$\frac{d \arccos x}{dx} = -\frac{1}{\sqrt{1-x^2}}$
$y = \operatorname{arctg} x$	$y' = \frac{1}{1+x^2}$	$\frac{d \operatorname{arctg} x}{dx} = \frac{1}{1+x^2}$
$y = \operatorname{arccotg} x$	$y' = -\frac{1}{1+x^2}$	$\frac{d \operatorname{arccotg} x}{dx} = -\frac{1}{1+x^2}$
$y = e^x$	$y' = e^x$	$\frac{de^x}{dx} = e^x$
$y = a^x$	$y' = a^x \ln a$	$\frac{da^x}{dx} = a^x \ln a$
$y = \ln x$	$y' = \frac{1}{x}$	$\frac{d \ln x}{dx} = \frac{1}{x}$
$y = \log_a x$	$y' = \frac{1}{x} \cdot \log_a e$	$\frac{d \log_a x}{dx} = \frac{1}{x} \cdot \log_a e$
$y = \lvert x \rvert$	$y' = \frac{\lvert x \rvert}{x}$	$\frac{d \lvert x \rvert}{dx} = \frac{\lvert x \rvert}{x}$